

PRE-APPEAL BRIEF REQUEST FOR REVIEW

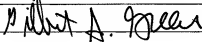
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UTSB:719US

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on Electronically submitted on 03/18/2011

Signature



Typed or printed name Gilbert A. Greene

Application Number

10/551,834

Filed

October 17, 2006

First Named Inventor

Gary T. Rochelle

Art Unit

1776

Examiner

Thomas B. McKenzie

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

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applicant/inventor.

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assignee of record of the entire interest.

See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.
(Form PTO/SB/96)

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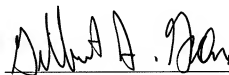
attorney or agent of record.

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attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34



Signature

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March 18, 2011

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required.
Submit multiple forms if more than one signature is required, see below*.

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*Total of forms are submitted.

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Arguments in Support of Pre-Appeal Brief Request for 10/551,834

Claims 1-10, 17-26, and 28-42 were rejected as obvious over US Pat. No. 5,017,350 to Hakka, et al. (“Hakka”). The Examiner concedes that Hakka fails to disclose the alkali salt concentrations recited in independent claims 1, 17, 26, and 36, but nevertheless contends that it would have been obvious to adjust the concentration of the alkali salt to meet the claimed concentrations “and thereby produce optimal working results.” Action mailed December 22, 2010 at ¶¶ 11, 22, 33, and 44. Applicants disagree that this reference renders the claims obvious.

The Examiner is relying on case law allegedly standing for the proposition that “[t]he discovery of an optimum value of a known result effective variable, without producing any new or unexpected results is within the ambit of a person of ordinary skill in the art.” Action at, e.g., ¶ 11 (citing *In re Boesch*, 205 USPQ (CCPA 1980), and MPEP § 2144.05). However, as set forth in MPEP §2144.05, a particular parameter must *first* be recognized as a result-effective variable, i.e., a variable that achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. *In re Antonie*, 559 F.2d 618, 195 USPQ 6 (CCPA 1977). As recognized in several decisions by the Board of Patent Appeals and Interferences, the burden is on the Examiner to establish that a particular parameter is recognized as a result-effective variable in order to invoke “optimization” case law. See, e.g., *Ex parte Johnson*, Appeal No. 2010-003975, Application No. 09/950,985, Decision on Appeal mailed 7/22/2010 (reversing obviousness rejection based on finding that Examiner failed to produce evidence that prior art recognized certain parameter as a result-effective variable). Contrary to the assertions of the Examiner, that burden has not been met in this case, nor could it be.

In the Final Office Action mailed December 22, 2010, the Examiner states that “the Examiner believes there would be instances where [varying the alkali salt concentration in the solution based on the parameters of the treated gas stream] would be necessary,” and labels alkali salt concentration as a recognized results-effective variable. Office Action mailed December 22, 2010, page 2. Applicant respectfully disagrees. First, the **only** mention of alkali salts in Hakka comes in the following brief paragraph:

The absorbing medium may contain mixtures of amine sorbents. Other components, e.g., alkali salts, may be present as additives to, for instance, retard sulphite or bisulphite oxidation, maintain pH and serve as cosolvents.

Hakka at col. 8, lines 15-19. Nowhere in that paragraph, nor anywhere else in Hakka, is there a recognition that the specific results listed in Hakka (*i.e.*, retarding sulphite or bisulphite oxidation, maintaining pH, and serving as a cosolvent) are dependent upon the concentration of alkali salt in the absorbing medium. Therefore, alkali salt concentration is not recognized as a result-effective variable for *any* result in Hakka, much less the specific results disclosed in the present application (which are not disclosed in Hakka, as explained below). Optimization of a parameter not recognized as being result-effective is not *prima facie* obvious. *In re Antonie*, 559 F.2d at 620.

Moreover, even if there was a recognition in Hakka that the alkali salt concentration was a result-effective variable for the specific results listed in Hakka, the Examiner has not come forward with any evidence, nor could he, that optimizing the concentration of alkali salt for the specific results listed in Hakka would necessarily result in Applicants' claimed concentrations. This is because, as discussed in the present specification, Applicants include alkali salts in their absorbing medium for results that are different from those disclosed in Hakka. Specifically, as explained at pages 2 and 8-9 of the specification, it had been thought previously that

concentrations of piperazine (PZ) greater than 1.3 m cannot be used in a CO₂-rich environment due to the formation of piperazine carbamate that precipitates from the solution. *See, e.g.,* U.S. Pat. No. 4,336,233 at col. 3, lines 7-18 (stating that “the use of piperazine alone as the washing agent is of limited applicability . . . [because] larger amounts than 1.3 mole / l cannot be used because in the presence of CO₂ . . . the carbamate of piperazine precipitates . . .”). Furthermore, the claimed concentrations of polyamine had been thought infeasible due to amine volatility. Specification at 2. However, Applicants discovered the surprising and unexpected result that greater concentrations of polyamines are feasible in a CO₂-rich environment without precipitation of solids and/or evaporation of the amine when used with certain concentrations of alkali salts because the interaction of the alkali with the amine and the CO₂ avoids solid precipitation and reduces the volatility of the amine, especially with PZ. *See* Specification at, *e.g.,* page 9, lines 6-11 (discussing result of avoiding solid precipitation) and page 14, lines 30-32 (discussing result of reducing amine volatility).

Nowhere does Hakka acknowledge or recognize that the higher concentrations of amine it allegedly discloses were not thought to be possible with piperazine in a CO₂-rich environment due to the formation of piperazine carbamate that precipitates from the solution with concentrations of piperazine greater than 1.3 m. In fact, Hakka appears to teach that the absorbing medium need not be single phase (*see* col. 7, lines 62-64), which confirms that Hakka does not even view solid precipitation generally as a problem needing to be solved. Furthermore, nowhere does Hakka recognize that the higher concentrations of polyamine it allegedly discloses had been thought infeasible due to amine volatility. Thus, it certainly cannot be argued that one of ordinary skill in the art would have had a reason, based upon Hakka, to “optimize” the alkali salt concentration to achieve the particular results of avoiding solid

precipitation and reducing amine volatility. Again, optimization of a parameter not recognized as being result-effective is not *prima facie* obvious. *In re Antonie*, 559 F.2d at 620.

For at least these reasons, this rejection is flawed, and reconsideration and withdrawal thereof is respectfully requested.